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10/621,613	07/18/2003	Takashi Sunda	50195-381	2916

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600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER
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PIZIALI, JEFFREY J

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/24/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

# Office Action Summary

Application No.

10/621,613

Applicant(s)

SUNDA ET AL.

Examiner

Jeff Piziali

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) 11-39 and 41-44 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 40 is/are rejected.
- 7) ☒ Claim(s) 9 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 July 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Priority*

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### *Election/Restrictions*

2. Applicants' election of Sub-Species A of Species I (i.e., Claims 1-10 and 40) in the reply filed on 3 November 2006 is acknowledged. Because applicants did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
3. Claims 11-39 and 41-44 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the replies filed on 3 November 2006 and 6 December 2005.
4. Applicants are reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Drawings***

5. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: "35" (see Fig. 2). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

6. The disclosure is objected to because of the following informalities: "Fig. 2" should be changed to "Fig. 1" on Page 12, Line 11 of the specification.

Appropriate correction is required.

7. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicants' cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claim Objections***

8. Claim 9 is objected to because of the following informalities: "elective operation" should be changed to "selective operation" on line 8 of the claim. Appropriate correction is required.
9. Claim 10 is objected to because of the following informalities: the reference numeral "21" should be removed from line 3 of the claim. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-10 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Masudaya (US 2001/0040562 A1).

Regarding claim 1, Masudaya discloses a multi-way input device [Fig. 1; 10] adapted to perform input operation (see Fig. 3) through tilting or sliding movements of an operation terminal [Fig. 1; 14] in a given direction (i.e., forward, backward, left, right) to allow a command (see Fig. 3) correlated with the direction to be selected (see Pages 3-4; Paragraphs 41-46), the multi-way input device comprising: an operational failure judgment section [Fig. 1; 15] judging

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if selective operation of an operator [Fig. 2; 21 & 22] is involved in an operational failure (i.e., a mistake); an operational failure memory section storing information, related to operational failures judged by the operational failure judgment section, as an operation history (see Fig. 4); an operational failure analysis section [Fig. 5; S56] analyzing the operation history stored in the operational failure memory section for thereby judging a tendency of the operational failures; and an adjusting section [Fig. 5; S60] adjusting a moveable mode of the operation terminal to avoid the operational failures in response to a resulting analysis made by the operational failure analysis section (see Page 4; Paragraph 48).

Regarding claim 2, Masudaya discloses the operational failure judgment section judges that, if a subsequent selective operation [Fig. 5; S51] is executed within a given time interval [Fig. 5; T] subsequent to a preceding selective operation and a resulting command is different from a selected command, the preceding selective operation is involved in an operational failure [Fig. 5; S55] and the subsequent selective operation is involved in a correct operation; the operational failure memory section stores a frequency of correct selective operations, a frequency of the operational failures and directions (see Fig. 7), in which the operational failures occur, in a correlated relationship for each operational direction (i.e., forward, backward, left, right) in which the operation terminal is operated; the operational failure analysis section judges an occurrence tendency of the operational failures based on the frequency of the correct selective operations, the frequency of the operational failures and the respective directions, in which the operational failures occur, for each operational direction; and the adjusting section corrects a

moveable range of the operation terminal in a way to be expanded toward an operational direction with a tendency of occurrence in the operational failures (see Page 5; Paragraph 63).

Regarding claim 3, Masudaya discloses the operational failure analysis section computes an occurrence frequency (see Fig. 7), in which the operational failures occur in respective operational directions (i.e., forward, backward, left, right), in a combination between one operational direction and an adjacent operational direction; and the adjusting section expands a moveable range of the operation terminal toward a direction with a high occurrence frequency of the operational failures (see Page 5; Paragraph 63).

Regarding claim 4, Masudaya discloses under a situation where, during operations of the operation terminal in the one and adjacent operational directions, the operational failures occur in the mutually adjacent operational directions at the same occurrence frequency, the adjusting section expands the moveable range of the operation terminal toward the respective operational directions (see Page 5; Paragraph 63).

Regarding claim 5, Masudaya discloses an operator discriminating section discriminating operators; wherein the operational failure memory section stores an operational failure history [Fig. 4; 21a-21f counted mistakes] for each operator [Fig. 2; 21a-21f] (see Page 4; Paragraph 48).

Regarding claim 6, Masudaya discloses the operator discriminating section is mounted on a vehicle to enable the operation terminal to be operated from a driver's seat and an assistant

driver's seat (see Page 1; Paragraph 2) and detects if a seated position of the operator belongs to the driver's seat or the assistant driver's seat for thereby discriminating the operator based on the seated position (see Page 1; Paragraph 7).

Regarding claim 7, Masudaya discloses the operator discriminating section detects the operator in dependence on detected conditions resulting from detection sensors [Fig. 2; 24a, 24b] installed in the vicinities of right and left sides of the operation terminal, respectively (see Page 3; Paragraphs 41-44).

Regarding claim 8, Masudaya discloses the adjusting section corrects the moveable range of the operation terminal in a whole operational direction depending on the seated position of the operator (see Page 4; Paragraph 48).

Regarding claim 9, Masudaya discloses an operation monitoring section (see Fig. 5) monitoring completed selective operations and operational directions of the operation terminal (see Page 4; Paragraph 48); and wherein the operational failure memory section accumulatively stores (i.e., via counting) an operational frequency, for each operational direction associated with the command, and a frequency of the operational failures, for the each operational direction, judged by the operational failure judgment section, as an operation history (see Fig. 7) for the selective operation (see Page 5; Paragraph 63); the operational failure analysis section calculates an erroneous operation rate, for the each operational direction, based on the operation history stored in the operational failure memory section; the adjusting section setting and altering a



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repulsion characteristic, to be imparted to the operator through the operation terminal, depending on an operational displacement value caused by tilting movement of the operation terminal initiated by the operator in a radial direction, and responsive to the erroneous operation rate to allow a repulsion characteristic (i.e., vibration), that increases depending on an operational displacement value as the erroneous operation rate related to the operational direction increases, to be set in a steeper gradient than that of a standardized repulsion or to allow an operational displacement position, at which the selective operation is completed, to be set to a position remoter than a standardized displacement position (see Page 6; Paragraph 68).

Regarding claim 10, this claim is rejected by the reasoning applied in rejecting claim 1; furthermore, Masudaya discloses a method of avoiding an operational failure in a multi-way input device [Fig. 1; 10] adapted to perform input operation (see Fig. 3) through tilting or sliding movements of an operation terminal [Fig. 1; 14] in a given operational direction (i.e., forward, backward, left, right) to allow a command (see Fig. 3), correlated with the operational direction, to be selected (see Pages 3-4; Paragraphs 41-46), the method comprising: judging [Fig. 1; 15] if selective operation of an operator [Fig. 2; 21 & 22] is involved in an operational failure (i.e., a mistake); storing information, related to the operational direction in which the operational failure occurs, as an operation history (see Fig. 4) in the presence of the operational failure; judging a tendency of operational failures by analyzing [Fig. 5; S56] the operation history; and correcting [Fig. 5; S60] a moveable range of the operation terminal so as to avoid the operational failure (see Page 4; Paragraph 48).

Regarding claim 40, this claim is rejected by the reasoning applied in rejecting claims 1 and 10; furthermore, Masudaya discloses a multi-way input device [Fig. 1; 10] adapted to perform input operation (see Fig. 3) through tilting or sliding movements of an operation terminal [Fig. 1; 14] in a given direction (i.e., forward, backward, left, right) to allow a command (see Fig. 3) correlated with the direction to be selected (see Pages 3-4; Paragraphs 41-46), the multi-way input device comprising: operational failure judging means [Fig. 1; 15] for judging if selective operation of an operator [Fig. 2; 21 & 22] is involved in an operational failure (i.e., a mistake); operational failure storing means for storing information, related to operational failures judged by the operational failure judging means, as an operation history (see Fig. 4); operational failure analyzing means [Fig. 5; S56] for analyzing the operation history stored in the operational failure storing means for thereby judging a tendency of the operational failures; and adjusting means [Fig. 5; S60] for adjusting a moveable mode of the operation terminal to avoid the operational failures in response to a resulting analysis made by the operational failure analyzing means (see Page 4; Paragraph 48).

### *Conclusion*

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Masudaya (US 2002/0021282 A1), Brynielsson (US 6,556,900 B1), Palalau et al (US 6,373,472 B1), Kushion (US 6,271,637 B1), Bartley et al (US 5,491,313 A), Fujisawa et al (US 5,467,277 A), and Hermann (US 5,270,689 A) are cited to further evidence the state of the art pertaining to multi-way input devices.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (571) 272-7678. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (571) 272-7681. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jeff Piziali  
22 January 2007